

**JACKING
SERVICES**



Our unique jacking system is the safest in the world

Verwater has over 60 years of experience in jacking of storage tanks, piping and pipe-racks. We have successfully jacked over 10,000 tanks all over the world, using our own unique jacking method. We have extensive experience in combining our jacking method with mechanical and civil repairs, as well as relocations of tanks.



Main reasons for tank jacking:

- Level correction
- Out-of-roundness correction
- Tank foundation re-instatement
- Tank relocation
- Tank bottom replacement
- Installation of secondary containment
- Conservation works
- Remediation of oil spills
- Safe and optimum tank operation

Added value:

- Creation of safe working methods
- Reduction of down-time of tanks
- High quality repairs





Verwater services:

- Tank maintenance
- Tank construction
- Jacking
- Civil
- Engineering
- Protective Coatings
- Piping & mechanical
- Valve services
- Turnarounds
- Electrical & Instrumentation
- Engineering & Automation

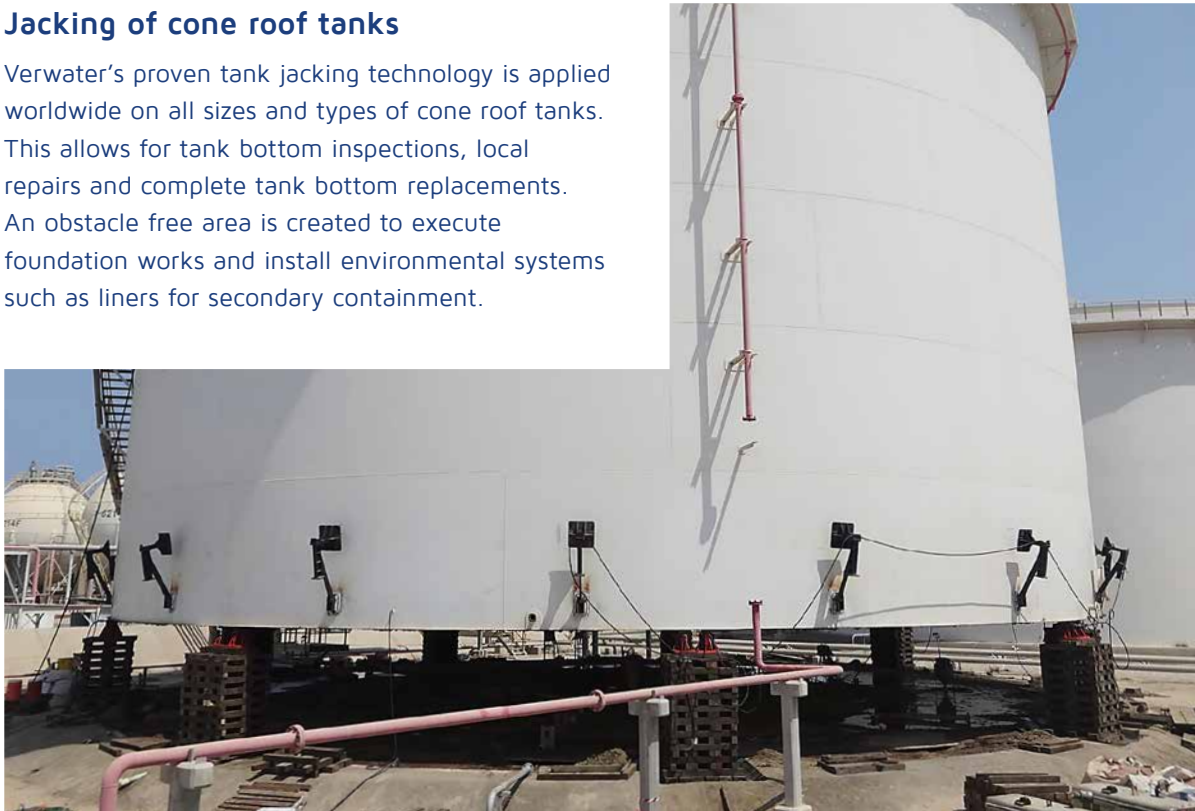


OUR SERVICES



Jacking of cone roof tanks

Verwater's proven tank jacking technology is applied worldwide on all sizes and types of cone roof tanks. This allows for tank bottom inspections, local repairs and complete tank bottom replacements. An obstacle free area is created to execute foundation works and install environmental systems such as liners for secondary containment.



Special structures for floating roof tanks

Verwater has developed dedicated jacking constructions supporting different types of floating roofs. These methods secure the integrity of floating roofs while jacking, and creates space for repairs of tank foundations and tank bottoms. We have successfully jacked tanks with diameters up to 100 meters (330 ft) to a height of up to 2.4 meters (8 ft).

Column-supported roof tanks

For jacking column-supported roof tanks Verwater engineered different types of structures that are installed inside the tank, ensuring safe operations while maintaining the integrity of the tank at all times. Jacking column-supported roofs requires a dedicated approach, including 3D scans and inspections.



Riveted tanks

In case of riveted tanks, often the older tanks in the market, Verwater applies dedicated jacking methods. Tanks as old as 100 years have been jacked safely for maintenance and repairs to extend their operational lifetime into another era.

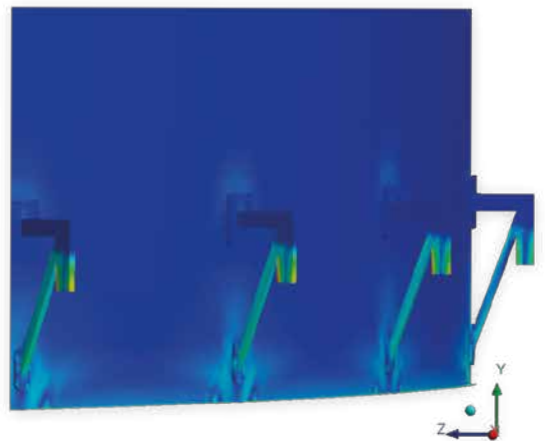
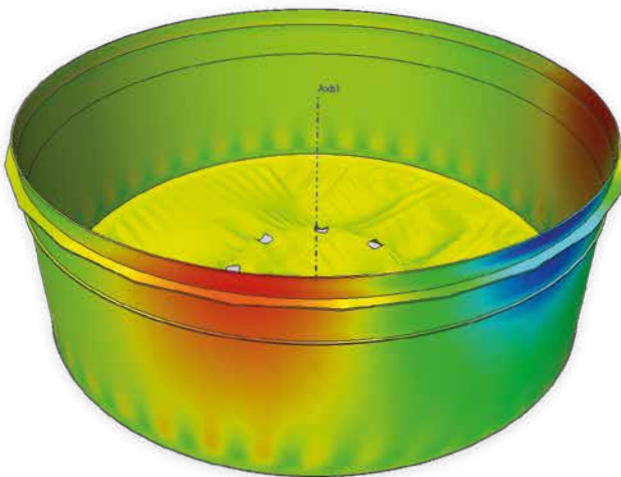
Jacking of pipes and pipe-racks

Jacking systems for pipelines and pipe racks allow for local repairs and complete maintenance and coating of pipelines. This method saves time and costs as pipelines do not have to be removed entirely. In this way corrosion problems under insulation and at abutments can be solved and complete pipe racks can be re-levelled.



Tank jacking calculations and engineering

Verwater offers stress, strength and jacking calculations. Tanks are modeled with FEM analysis to control each step in the jacking process. All safety factors and design load combinations are applied according to the latest standards. The EN 1090 and/or API codes for steel structures are fully implemented.



Relocation of tanks

Verwater has solutions for relocating tanks of any type and size. Our techniques include shifting on skid tracks, mobile cranes, platform trailers and transport over water. The time and cost savings compared to demolishing and rebuilding is significant. Within a short time tanks can be back in service at their new location.



Tank foundations

Verwater's jacking technique is often used for installation of tank foundations and repairs. Different types of tank foundations can be engineered and constructed by Verwater underneath jacked tanks, using specialized equipment to work in limited space conditions. Verwater installs crushed stone ring wall foundations, concrete ring foundations and liners, all to meet the latest environmental standards.



VERWATER GROUP BV

Hoefsmidstraat 40
3194 AA Hoogvliet RT
P.O. Box 48
3190 AA Hoogvliet RT
The Netherlands

☎ +31 (0)10 416 54 77
✉ info@verwater.com
✉ sales@verwater.com
➤ www.verwater.com

Verwater Industrial Services Singapore Pte. Ltd.

100 D Pasir Panjang Road
#05-09 Meissa
Singapore 118520
☎ +65 677 710 59
✉ singapore@verwater.com

Verwater U.S.A. Projects L.L.C.

402 Anders Lane
Kemah, Texas 77565
USA
☎ +1 (281) 549 6685
☎ +1 (832) 795 1195
✉ usa@verwater.com

Verwater Shanfari International L.L.C.

P.O. Box 783,
P.C. 100, Muscat,
Sultanate of Oman
☎ +968 24 602 721
✉ shanfari@verwater.com

OUR OFFICE LOCATIONS

